UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
WASHINGTON 25, D. C.

In Cooperation with State, Federal and Other Agencies

COTTON INSECT CONDITIONS - JULY 23, 1951
(Eighth Cotton Insect Survey Report for 1951)

Serious boll weevil infestations are few this summer as compared with the past two summers. The weevils are widely distributed but serious infestations are scattered. In general they occur in areas where early destruction of the cotton stalks before frost was not practiced in 1950, where favorable hibernating quarters occur (usually near woods), or where the growers are not applying insecticides properly when needed.

The boll weevil infestations remain comparatively low because periods of hot, dry weather continue to occur in most of the boll weevil infested States, because many natural enemies of the weevil are active and are helping to reduce their numbers, and because insecticides are being used more widely and carefully than during any previous year when the boll weevil infestations were not extremely serious. More insecticides are now being used in the cotton fields than during any previous year with the exception of 1950, and possibly 1949.

Every cotton field in which a crop has not already been matured should be examined frequently. August is the month when insects usually cause the greatest damage to the cotton crop.

The only cotton leafworm, Alabama argillacea (Hbn.), received thus far this season was reported in the last Survey Report. It was taken in Cameron County, the most southern county in Texas on July 17. Any insects that might possibly be cotton leafworms should be collected and submitted for determination.

Spider mites, bollworms, stink bugs and other pests besides the boll weevil may cause enormous losses in cotton fields during August unless the fields are examined frequently and efforts made to check the pests before they become serious.

BOLL WEEVIL

North Carolina: Hot, dry weather checked weevil development and heavy shedding of young squares occurred in some eastern and southern counties. Weevil infestation continues to be spotted in all areas. In the examination of 260 poisoned fields in 39 counties weevils were found in 191 fields. The infestation ranged from 0 to 10% in 219 fields, from 11 to 25% in 30 fields, and more than 25% of the squares were punctured in 11 fields in Robeson, Hoke, Bladen, Edgecombe, and Scotland Counties. Weevils were found in 149 of the 160 unpoisoned fields examined. The infestation ranged from 0 to 10% in 73 fields, from 11 to 25% in 47 fields, from 26 to 50% in 24 fields, and more than 50% of the squares were punctured in 16 fields.

South Carolina: L. C. Fife reported July 20: Hot, dry weather is causing heavy shedding of squares and young bolls in Bamburg, Orangeburg, Barnwell, Allendale, Sumter, and Clarendon Counties. In most of the other counties moisture has been sufficient to set a good crop.

Weevils were found in all of the 57 unpoisoned fields examined in 19 counties at an average rate of 38% punctured squares. The infestation ranged from 11 to 25% in 14 fields, from 26 to 50% in 29 fields, and more than 50% of the squares were punctured in 14 fields. Weevils were found in all of the 57 poisoned fields examined in the same 19 counties at an average rate of 13% punctured squares. The infestation ranged from 1 to 10% in 19 fields, from 11 to 25% in 35 fields, and from 26 to 50% in 3 fields.

Georgia: C. M. Beckham, George M. Sutton and E. T. Cody reported that during the week ending July 20, boll weevils were found in 163 of the 182 poisoned fields examined in 36 counties at an average rate of 10% punctured squares. No weevils were found in 19 fields. The infestation ranged from 1 to 10% in 96 fields, from 11 to 25% in 59 fields, and from 26 to 50% in 8 fields. Weevils were found in 33 of the 34 unpoisoned fields examined in 20 counties at an average rate of 17% punctured squares. The infestation ranged from 1 to 10% in 10 fields, from 11 to 25% in 14 fields and from 26 to 50% in 9 fields.

Alabama: During the week ending July 21 Conrad J. Ward found boll weevils in 62 of the 72 fields examined in 10 northeastern counties. The average infestation in the infested fields was 13% punctured squares. No weevils were found in 10 fields. The infestation ranged from 1 to 25% in 55 or 76% of the fields and from 26 to 50% in 7 or 10% of the fields.

Tennessee: Arthur P. Morris, Entomologist, reported on July 20 that boll weevils were found in 35 of 57 fields examined in 8 western counties at an average rate of 8% in infested fields. The infestation ranged from 1 to 10% in 30 fields, from 11 to 25% in 4 fields, and in 1 field in Chester County 55% of the squares were punctured. In the examination of 27 fields by Federal entomologists in Shelby, Hardeman, McNairy, and Fayette Counties weevils were found in 22 fields at an average rate of 9% punctured squares as compared with 17% last week. No weevils were found in 5 fields in Hardeman and McNairy Counties. The infestation ranged from 1 to 10% in 15 fields, from 11 to 25% in 6 fields, and in 1 field in Hardeman County 45% of the squares were punctured.

Mississippi: Mississippi Weekly Cotton Insect Report, July 23: "Hot, dry weather during the past week has killed many boll weevils. Only a few scattered showers have occurred and rain is needed in many areas. The examination of 866 fields in 46 counties showed 642 infested with weevils with an average infestation of 11% which compares with 9% last week and 20% this time last year. The low infestation is no doubt due to general poisoning and continued dry weather."

Weevil infestation continues low in the Delta. Of 708 fields examined during the week ending July 20 in 17 Delta Counties 70% were infested, the same as last week. The average infestation in infested fields was 10% as compared with 7% last week. A year ago when 544 fields were examined, 482 or 89% were found infested at an average rate of 18% punctured squares.

Louisiana: R. C. Gaines reported July 19: Weather conditions continued to check weevil development but second generation weevils were observed in northern parishes. The average boll weevil infestation in 549 fields in 21 parishes was 12% punctured squares as compared with 8% last week, 20% in 1950 and 18% in 1949. No punctured squares were found in 4 fields in Madison, Franklin and Natchitoches Parishes. The infestation ranged from 1 to 10% in 350 fields; from 11 to 25% in 131 fields; from 26 to 50% in 59 fields and more than 50% of the squares

were punctured in 5 fields in Bossier, Union and Madison Parishes.

Average Boll Weevil Infestations in Louisiana From 1943 to 1951, Inclusive

Year	Week Ending								
	June	July				August			
	28	5	12	19	26	2	9	16	23
	Percent Squares Punctured								
1951	16	9	8	12					
1950	--	26	18	20	21	23	27	44	37
1949	13	13	15	18	26	32	34	--	--
1948	6	7	11	14	20	21	32	--	--
1947	--	15	17	21	21	19	15	16	--
1946	35	24	41	49	51	68	73	--	--
1945	--	16	18	27	28	31	54	54	73
1944	10	10	8	9	15	10	21	14	--
1943	10	10	9	15	19	28	31	--	--

Arkansas: First generation weevils have been observed in many fields but weather conditions and much poisoning have in general held infestations to a low level. Of 841 fields examined in 14 counties the average infestation was 8% punctured squares as compared with 13% the past week. The highest infestations were found in the southwestern portion of the State where the average was 24% as compared with 23% last week, 41% in 1950 and 33% in 1949. In the southeastern portion the average infestation was 9% as compared with 7% last week, 10% in 1950 and 29% in 1949. The average infestation in the northwestern counties was 6% and in the eastern counties 2%. No punctured squares were found in 271 or 32% of the fields examined throughout the State. The infestation ranged from 1 to 10% in 41% of the fields, from 11 to 25% in 19% of the fields, from 26 to 50% in 6% of the fields, and more than 50% of the squares were punctured in 2% of the fields in Phillips, Lafayette, Desha, and Lincoln Counties.

Average Boll Weevil Infestations in Southeastern Arkansas (Ashley, Chicot, Drew, Desha, Lincoln, and Jefferson Counties) From 1943 to 1951, Inclusive

Year	Week Ending								
	June	July				August			
	28	5	12	19	26	2	9	16	23
	Percent Squares Punctured								
1951	17	8	7	9					
1950	--	12	15	10	20	19	30	42	53
1949	42	31	29	29	43	51	50	--	--
1948	6	5	4	7	8	16	23	19	29
1947	--	13	30	30	38	30	22	26	--
1946	--	12	29	15	37	37	41	48	--
1945	--	5	10	11	14	11	23	22	44
1944	--	--	5	5	2	3	3	3	--
1943	--	10	4	8	7	7	12	--	--

Texas: Dry, hot weather over the State checked weevil development and there was little change in the infestation. The average weevil infestation in 815 fields examined in 90 counties was 16% punctured squares which compares with 16% last week and 25% at the same time last year.

Oklahoma: First generation weevils are now appearing in many fields and the infestation is increasing. In some unpoisoned fields the infestation ranged as high as 80% punctured squares. Of 308 fields examined in 38 counties 257 were infested with weevils. The heaviest infested fields were reported from Tillman, Creek, Okmulgee, Muskogee, McIntosh, and Stephens Counties.

PINK BOLLWORM

Texas: In Cameron County pink bollworms were found during the week ending July 14 at the rate of 10 per bushel of gin trash as compared with 124 pink bollworms per bushel a year ago. This year 900 pink bollworms were found in 88 bushels of trash, while a year ago during the same period 19,861 pink bollworms were found in 160 bushels of trash. This great reduction in the pink bollworm population in Cameron County this year as compared with last year is due largely to the early cutting of the cotton stalks in July and August 1950, and the thorough clean up of old and young cotton plants during the fall and winter.

Altogether, 4,763 pink bollworms were found in 122 bushels of gin trash in the counties of the lower Rio Grande Valley. A few pink bollworms were found in gin trash from the first bales ginned in Bee, Jim Wells, and Live Oak Counties.

In the examinations of 3,100 green bolls from 53 fields in several of the counties north of the lower valley, 82 pink bollworms were found in 13 fields. No pink bollworms were found in any of the 49 fields examined in central, northern and western Texas.

BOLLWORMS AND OTHER LEPIDOPTEROUS LARVAE ON COTTON

Texas: Heavy infestations of bollworms have developed in some areas especially in northcentral and eastern counties.

On July 6 K. P. Ewing, Waco, submitted 20 lots of lepidopterous larvae collected on cotton in 11 counties between June 21 and July 3 that consisted of 43 bollworms, Heliothis armigera (Hbn.) in 10 of the collections; 5 tobacco budworms, H. virescens (Fabr.), in 4 of the collections; 19 yellow-striped armyworms, Prodenia ornithogalli Gn., in 4 of the collections; 3 "loopers" of the Autographa group in 2 collections; 4 garden webworms, Loxostege similalis Gn.; 1 beet armyworm, Laphygma exigua (Hbn.), and 2 specimens of an undetermined species of Hesperiidae. By counties the 77 larvae were distributed as follows: Bollworm, H. armigera - Calhoun 5, Colorado 16, Coryell 1, DeWitt 1, Ellis 1, Fort Bend 5, Jackson 4, McLennan 3, and Wharton 8. Tobacco budworm, H. virescens (Fabr.) - Austin 2, Ellis 1, Jackson 1, and McLennan 1. The yellow-striped armyworm, Prodenia ornithogalli Gn. - Ellis 12, Jackson 5 and McLennan 2. Autographa group - Calhoun 1, Victoria 2. Garden webworm, Loxostege similalis - Ellis 4. Beet armyworm, Laphygma exigua (Hbn.) - Jackson 1. Undetermined species of Hesperiidae - Calhoun 2.

On May 25 K. P. Ewing submitted 4 lots of lepidopterous larvae collected on cotton in McLennan County that included the bollworm, H. armigera (Hbn.), the yellow-striped armyworm, Prodenia ornithogalli Guen, 6 cutworms, Agrotis gladiaria Morr., 2 cutworms, Agrotis sp., and a leaf roller, Platynota sp.

The garden webworm, Loxostege similalis (Guen.), was collected on cotton in Live Oak County on May 22.

Oklahoma: Bollworms are increasing rapidly in southeastern counties. Moths, eggs and small worms are present in many fields.

Louisiana: L. D. Newsom reported on July 19 for the Shreveport area : "Large numbers of bollworm moths have begun to appear."

Mississippi: On June 13 E. W. Dunnam submitted 17 vials of lepidopterous larvae collected chiefly in Washington, Bolivar, and Sharkey Counties. Fifteen of the lots contained 74 specimens of the bollworm, Heliothis armigera (Hbn.), 3 contained single specimens of the tobacco budworm, H. virescens (Fabr.), and 2 lots contained 12 small specimens of first instar larvae that were identified as Heliothis sp. There were also specimens of the stalk borer, Papaipema nebris Guenee, from Washington and Tunica Counties.

Mississippi Weekly Cotton Insect Report, July 23: "Complaints have been received from several sections of the State regarding bollworm infestations during the past week."

Alabama: Light bollworm infestations were reported in 30 of 72 fields examined in 10 northeastern counties at an average rate of 2.4%. The infestation ranged from 1 to 6% injured squares. Cutworms were found in four fields.

Tennessee: In the examination of 57 fields in 8 western counties damage by lepidopterous larvae was found in 34 fields. Six fields had from 4 to 8% of the squares injured.

South Carolina: The 7th Weekly Report on Cotton Insect Conditions issued on July 13 stated that bollworms were increasing in Berkeley, Dillon, Greenville, Lexington, and Marion Counties.

Cotton Letter No. 9 issued on July 17 stated: "Cutworms on cotton are still reported in counties along the Georgia line."

SPIDER MITES

South Carolina: L. C. Fife reported on July 20: "Red spider mites were building up in the following counties: Lexington, Union, Greenwood, Saluda, Edgefield, Barnwell, Orangeburg, Sumter, Lancaster, Calhoun, and Marlboro. Several fields were treated for red spider mite control with 1 percent parathion dust in Marlboro County."

The Cotton Letter No. 9 issued by the Extension Service on July 17 states: "Red spider mite outbreaks are numerous throughout the State. The red spider is often associated with dry weather since it can build up to great numbers under such conditions. It only takes 8 days for the red spider to go through a complete cycle from egg to adult. Spot dusting or spraying with hand equipment is effective on small areas. If dusting, use 20 pounds of dusting sulfur per acre. If spraying, use ½ pint of 40% TEPP per acre. A request has been made to the Allocations Board in Washington, D. C., for additional supplies of sulfur for the cotton growers of South Carolina to meet this emergency. Keep in contact with your local dealer."

The 7th Weekly Report on Cotton Insect Conditions issued on July 13 stated that red spider outbreaks had been reported in 20 counties.

Septanychus texazona McG. was found on cotton at Florence on July 5 by R. L. Walker.

Alabama: Serious spider mite infestation was reported in 5 fields in the northeastern part of the State.

Arizona: Septanychus texazona McG. was found on cotton at Continental on June 25 by William Kauffman.

THRIPS

Mississippi: Tobacco thrips, Frankliniella fusca (Hinds), were collected on cotton near Shaw, Bolivar County, on June 6, by E. W. Dunnam.

Texas: On May 22 K. P. Ewing submitted two lots of thrips collected on cotton in McLennan County. The onion thrips, Thrips tabaci Lind., were in one lot, but another thrips, F. exigua Hd., were much more numerous in both lots. On June 11 another lot of thrips from cotton was submitted from McLennan County that consisted chiefly of F. exigua Hd., but also included some flower thrips, F. tritici (Fitch), and some tobacco thrips, F. fusca (Hinds).

APHIDS

Mississippi: The cowpea aphid, Aphis medicaginis Koch, and the cotton aphid, A. gossypii Glov., were collected on cotton at Shaw, Bolivar County, on June 6 by E. W. Dunnam.

IRRIGATED COTTON OF THE SOUTHWEST

Arizona: Injurious hemipterous insect populations in the Salt River Valley in Maricopa County remained about the same as the previous week. Large cotton acreages throughout the Valley are being dusted or sprayed for insect control with good results in all fields observed. Spider mites are building up in several areas. Infestations in most of the fields examined are being held in check by the use of insecticides, or by predators, mainly Orius spp. Stink bugs are appearing in a number of fields in the Eloy area in Pinal County. Bollworm infestation is increasing in a number of fields. The injurious hemipterous insect populations continue low in Pima County, but beet armyworms have caused considerable damage in this area. Bollworms are increasing and control measures will be undertaken in a number of fields. White flies are especially numerous and honeydew was observed in a number of fields.

New Mexico: The New Mexico Cotton Letter issued by the Extension Service for the week ending July 21 stated: "Frequent local showers were again reported in the Artesia and Las Cruces areas and the expected bollworm increase is a reality.

"Pecos Valley: Heavier Lygus population noted around Roswell. Bollworm infestation continues fairly general and light, but some few fields are infested fairly heavy and control measures are necessary. Spraying and dusting are fairly general throughout the Valley.

"Mesilla Valley: Bollworm population is on the increase over the whole Valley with heaviest infestations reported near Hatch and Anthony. Lygus and fleahopper infestations fairly general. Spotted infestations of red spider noted around Hatch.

"Lea County: Thrips infestations continue over the entire county, but with good control being reported on treated fields. Aphid and fleahopper infestations fairly general with control ranging from poor to excellent. Bollworm infestation light, but general. Cotton square borer light, but general. Webworm infestation reported in two fields in fairly heavy numbers.

"Deming Area: Thrips have become of secondary importance. Some fields have moderate infestations, but new growth shows little damage. Red spider has been found in several fields. Infestations range from light to severe. Lygus are threatening to become of primary importance. No controls have been recommended. A few stink bugs have been found. Worms are present, but the infestation is light. Beet armyworms are most numerous. Beneficial insects remain plentiful. Lace-wing flies, damsel flies and ladybird beetles are most common."

Texas: L. W. Noble reported for the week ending July 21: "Very little poison has been applied for cotton insect control in the El Paso Area to date. Bollworm infestation is generally light. Bollworm moths were noted in increasing numbers in cotton fields, and if showers continue, the larvae may be expected to increase. Their predators are abundant, however, and will help to limit bollworm buildup. Farmers who have been contacted were advised to delay poison application until they were certain of the need for it in order to receive greater benefit from natural enemies of the bollworm. Cabbage loopers and yellow-striped armyworms are widely distributed, but not in serious infestations."

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PREPARED JULY 30, 1951